slots of the time frame being assigned exclusively to one transmission direction, for example transmit, whereas the remaining number N-K of time slots being assigned exclusively to the other transmission direction, for example receive. For this purpose, the TDM unit controls the transmission section 50 and the reception section 51 by activating them at the given time. In this case, the transmission section 50 and the reception section 51 are never in operation at the same time, as a result of which the processor power required for the control can be designed to be correspondingly low. Since influencing of the receiver by its own transmitter is also precluded as a result, only a low resolution is necessary for the analog-to-digital converter 16 of the receiver section. This advantage is highly cost-effective on account of the direct proportionality of resolution and price in the case of analog-to-digital converters.

IN THE CLAIMS:

Please amend claims 8 and 11 as follows:

8. (Amended) A method for bidirectional data transmission via a two-wire line, comprising the steps of:

transmitting digital data bidirectionally between a first station and a second station via the two-wire line, wherein only one of a transmitting operation and a receiving operation is performed at any given time in each station;

modulating and demodulating the digital data using discrete multitone modulation; and

separating digital data to be transmitted and the digital data to be received by time division multiplex operation, wherein an associated multiplex time frame is subdivided into a predeterminable number of time slots N, a number of time slots K being assigned exclusively to one transmission direction, and the remaining number of time slots N-K being assigned exclusively to the other transmission direction.

11. (Amended) A system for bidirectional data transmission via a single two-wire line, comprising:

a first station connected to one end of the two-wire line;

a second station connected to the other end of the two-wire line; and

means for transmitting digital data bidirectionally between the first and second stations via the two-wire line, wherein only one of a transmitting operation and a receiving operation is performed at any given time in each station, and wherein each station includes:

means for modulating and demodulating digital data using discrete multitone modulation, and

means for separating digital data to be transmitted and the digital data to be received by time division multiplex operation, wherein an associated multiplex time frame is subdivided into a predeterminable number of time slots N, a number of time slots K being assigned exclusively to one transmission direction, and the remaining number of time slots N-K being assigned exclusively to the other transmission direction.